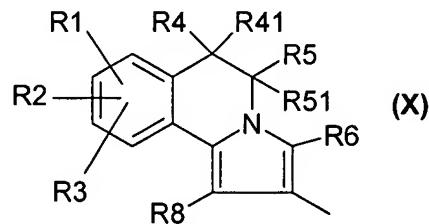


AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application.

LISTING OF CLAIMS:

1. (Currently amended) A compound which inhibits PDE10, comprising a structural-element as an integral part of its overall structure, wherein said structure-element has the formula X



in which

R1 is halogen, nitro, 1-4C-alkyl, or 1-4C-alkoxy, 1-4C-alkoxy-2-4C-alkoxy, 3-7C-cycloalkoxy or 3-7C-cycloalkylmethoxy,

R2 is hydrogen, 1-4C-alkoxy or halogen,

R3 is hydrogen or 1-4C-alkoxy,

R4 is hydrogen,

R41 is hydrogen,

R5 is ~~hydrogen or 1-4C-alkyl, 1-4C-alkoxycarbonyl or cyano~~, and

R51 is ~~hydrogen or 1-4C-alkyl~~,

or

R4 is ~~hydrogen~~,

R41 is ~~hydrogen~~,

R5 is ~~1-4C-alkoxycarbonyl~~, and

R51 is ~~hydrogen~~,

or

R4 is ~~hydrogen~~,

R41 is ~~hydrogen~~,

R5 is ~~cyano~~, and

R51 is ~~hydrogen~~,

or

~~R4 and R5 together form a 3-4C-alkylene bridge and R41 and R51 are both hydrogen~~,

R6 is ~~1-6C-alkyl, amino, formyl, or 1-4C-alkyl substituted by R61~~, in which

R61 is ~~1-4C-alkoxycarbonyl, carboxyl, 1-4C-alkoxy, hydroxyl, halogen or -N(R611)R612~~, in which

R611 is ~~hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or 3-7C-cycloalkyl-1-4C-alkyl~~, and

R612 is ~~hydrogen or 1-4C-alkyl~~, or

~~R611 and R612 together and with inclusion of the nitrogen atom to which they are~~

bound form a radical Het1, in which

~~Het1 is a 5- to 7-membered saturated heterocyclic ring radical comprising one nitrogen atom, to which R611 and R612 are bound, and, optionally, one further heteroatom selected from a group consisting of nitrogen, oxygen and sulfur, and optionally substituted by R613 on a ring nitrogen atom, in which~~

~~R613 is 1-4C-alkyl, 3-7C-cycloalkyl, 3-7C-cycloalkyl 1-4C-alkyl, hydroxy 2-4C-alkyl, 1-4C-alkoxy 2-4C-alkyl, amino 2-4C-alkyl, mono- or di 1-4C-alkylamino 2-4C-alkyl, formyl, pyridyl or pyrimidinyl,~~

R8 is cyano, or -C(O)-OR9, in which

R9 is 1-4C-alkyl;

~~under the proviso that,~~

~~when R8 is -C(O)-OR9, in which~~

~~R9 is 1-4C-alkyl,~~

~~then R5 is other than hydrogen.~~

2. (Currently amended) The compound according to claim 1 which inhibits PDE10, comprising a structural-element as an integral part of the compound's overall structure, wherein said structure-element has the formula X according to claim 1, in which

R1 is halogen, nitro, 1-4C-alkyl, or 1-4C-alkoxy, 1-4C-alkoxy 2-4C-alkoxy, 3-7C-cycloalkoxy or 3-7C-cycloalkylmethoxy,

R2 is 1-4C-alkoxy or halogen,

R3 is hydrogen or 1-4C-alkoxy,

R4 is hydrogen,

R41 is hydrogen,

R5 is ~~hydrogen or~~ 1-4C-alkyl, 1-4C-alkoxycarbonyl or cyano and

R51 is ~~hydrogen or~~ 1-4C-alkyl,

or

~~R4 is hydrogen,~~

~~R41 is hydrogen,~~

~~R5 is 1-4C-alkoxycarbonyl, and~~

~~R51 is hydrogen,~~

or

~~R4 and R5 together form a 3-4C-alkylene bridge and R41 and R51 are both hydrogen,~~

R6 is 1-6C-alkyl, ~~amino, formyl, or 1-4C-alkyl~~ substituted by R61, in which

R61 is ~~1-4C-alkoxycarbonyl, carboxyl, 1-4C-alkoxy, hydroxyl, halogen or -N(R611)R612~~, in which

R611 is hydrogen, 1-4C-alkyl, 3-7C-cycloalkyl or 3-7C-cycloalkyl-1-4C-alkyl, and

R612 is hydrogen or 1-4C-alkyl, or

~~R611 and R612 together and with inclusion of the nitrogen atom to which they are bound form a radical Het1, in which~~

Het1 is a 5- to 7-membered saturated heterocyclic ring radical comprising one nitrogen atom, to which R611 and R612 are bound, and, optionally, one further heteroatom selected from a group consisting of nitrogen, oxygen and sulfur, and optionally substituted by R613 on a ring nitrogen atom, in which

R613 is 1-4C alkyl, 3-7C cycloalkyl, 3-7C cycloalkyl 1-4C alkyl, hydroxy 2-4C alkyl, 1-4C alkoxy 2-4C alkyl, amino 2-4C alkyl, mono- or di 1-4C alkylamino 2-4C alkyl, formyl, pyridyl or pyrimidinyl,

R8 is cyano, or $-\text{C}(\text{O})-\text{OR}_9$, in which

R9 is 1-4C-alkyl;

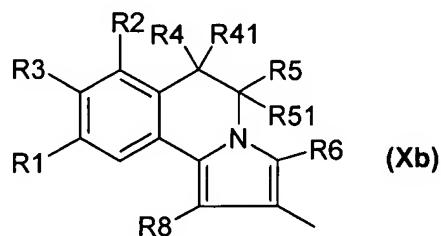
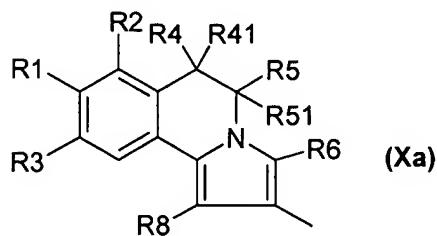
~~under the proviso that,~~

when R8 is $C(O)OR_9$, in which

~~R9 is 1-4C alkyl,~~

then R5 is other than hydrogen.

3. (Previously presented) The compound according to claim 1 which inhibits PDE10, comprising a structural-element as an integral part of the compound's overall structure, wherein said structure-element is of the formula Xa or Xb



in which

as a first alternative,

R1 is chlorine or fluorine,

R2 is hydrogen,

R3 is methoxy or ethoxy,

or, as a second alternative,

R1 is methoxy or ethoxy,

R2 is hydrogen,

R3 is methoxy or ethoxy,

or, as a third alternative,

R1 is chlorine or fluorine,

R2 is methoxy or ethoxy,

R3 is methoxy or ethoxy,

or, as a fourth alternative,

R1 is methoxy or ethoxy,

R2 is chlorine or fluorine,

R3 is methoxy or ethoxy,

or, as a fifth alternative,

R1 is methoxy or ethoxy,

R2 is methoxy or ethoxy,

R3 is methoxy or ethoxy,

R4 is hydrogen,

R41 is hydrogen,

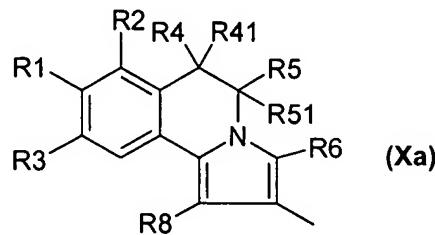
R5 is methyl,

R51 is hydrogen,

R6 is methyl, ethyl or methoxycarbonylethyl,

R8 is cyano.

4. (Previously presented) The compound according to claim 1 which inhibits PDE10, comprising a structural-element as an integral part of the compound's overall structure, wherein said structure-element is of the formula Xa



in which

R1 is methoxy,

R2 is hydrogen,

R3 is methoxy,

R4 is hydrogen,

R41 is hydrogen,

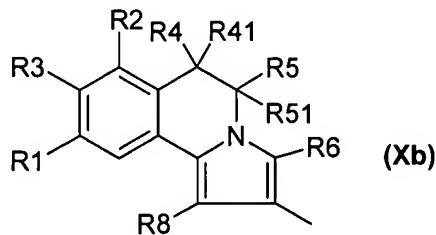
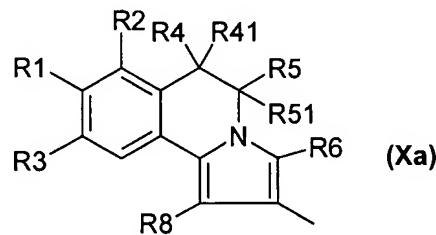
R5 is methyl,

R51 is hydrogen,

R6 is methyl or methoxycarbonylethyl,

R8 is cyano.

5. (Currently amended) The compound according to claim 1 which inhibits PDE10, comprising a structural-element as an integral part of the compound's overall structure, wherein said structure-element is of the formula Xa or Xb



in which

R1 is 1-2C-alkoxy,

R2 is hydrogen, chlorine or fluorine,

R3 is 1-2C-alkoxy,

R4 is hydrogen,

R41 is hydrogen,

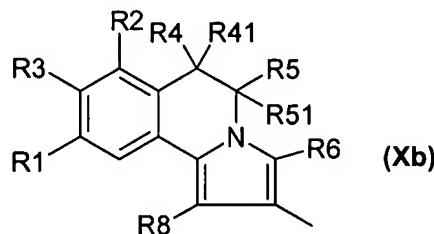
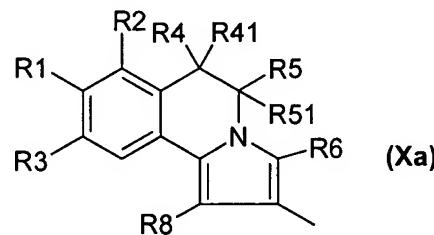
R5 is hydrogen, 1-2C-alkyl or cyano,

R51 is hydrogen,

R6 is 1-2C-alkyl, or 1-2C-alkyl substituted by 1-2C-alkoxycarbonyl,

R8 is cyano.

6. (Previously presented) The compound according to claim 1 which inhibits PDE10, comprising a structural-element as an integral part of the compound's overall structure, wherein said structure-element is of the formula Xa or Xb



in which

R1 is 1-2C-alkoxy,

R2 is hydrogen, chlorine or fluorine,

R3 is 1-2C-alkoxy,

R4 is hydrogen,

R41 is hydrogen,

R5 is 1-2C-alkyl or cyano,

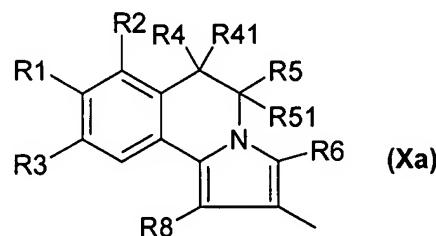
R51 is hydrogen,

R6 is 1-2C-alkyl, or 1-2C-alkyl substituted by 1-2C-alkoxycarbonyl,

R8 is -C(O)-OR9, in which

R9 is 1-2C-alkyl.

7. (Currently amended) The compound according to claim 1 which inhibits PDE10, comprising a structural-element as an integral part of the compound's overall structure, wherein said structure-element is selected from the group consisting of those structure-elements of the formula Xa



in which

R1 is methoxy,

R3 is methoxy,

R4 is hydrogen,

R41 is hydrogen, and

R51 is hydrogen,

and in which the following combinations 1.) to 50.) of the substituent meanings

for R2, R5, R6 and R8 apply:

	R2	R5	R6	R8
1.)	hydrogen	methyl	Methyl	cyano
2.)	hydrogen	methyl	Methyl	ethoxycarbonyl
3.)	hydrogen	methyl	2-methoxycarbonylethyl	cyano
4.)	hydrogen	methyl	2-methoxycarbonylethyl	ethoxycarbonyl
5.)	hydrogen	hydrogen	methyl	cyano
6.)	hydrogen	hydrogen	2-methoxycarbonylethyl	cyano
7.)	fluorine	methyl	methyl	cyano
8.)	fluorine	methyl	methyl	ethoxycarbonyl
9.)	fluorine	methyl	2-methoxycarbonylethyl	cyano
10.)	fluorine	methyl	2-methoxycarbonylethyl	ethoxycarbonyl
11.)	fluorine	hydrogen	methyl	cyano
12.)	fluorine	hydrogen	2-methoxycarbonylethyl	cyano
13.)	fluorine	hydrogen	methyl	ethoxycarbonyl
14.)	fluorine	hydrogen	2-methoxycarbonylethyl	ethoxycarbonyl
15.)	hydrogen	cyano	methyl	cyano
16.)	hydrogen	cyano	methyl	ethoxycarbonyl
17.)	hydrogen	cyano	2-methoxycarbonylethyl	cyano

18.)	hydrogen	cyano	2-methoxycarbonylethyl	ethoxycarbonyl
19.)	fluorine	cyano	methyl	cyano
20.)	fluorine	cyano	methyl	ethoxycarbonyl
21.)	fluorine	cyano	2-methoxycarbonylethyl	cyano
22.)	fluorine	cyano	2-methoxycarbonylethyl	ethoxycarbonyl
23.)	chlorine	methyl	methyl	cyano
24.)	chlorine	methyl	methyl	ethoxycarbonyl
25.)	chlorine	methyl	2-methoxycarbonylethyl	cyano
26.)	chlorine	methyl	2-methoxycarbonylethyl	ethoxycarbonyl
27.)	chlorine	hydrogen	methyl	cyano
28.)	chlorine	hydrogen	2-methoxycarbonylethyl	cyano
29.)	chlorine	hydrogen	methyl	ethoxycarbonyl
30.)	chlorine	hydrogen	2-methoxycarbonylethyl	ethoxycarbonyl
31.)	chlorine	cyano	methyl	cyano
32.)	chlorine	cyano	methyl	ethoxycarbonyl
33.)	chlorine	cyano	2-methoxycarbonylethyl	cyano
34.)	chlorine	cyano	2-methoxycarbonylethyl	ethoxycarbonyl
35.)	hydrogen	methyl	methyl	methoxycarbonyl
36.)	hydrogen	methyl	2-methoxycarbonylethyl	methoxycarbonyl
37.)	fluorine	methyl	methyl	methoxycarbonyl
38.)	fluorine	methyl	2-methoxycarbonylethyl	methoxycarbonyl

39.)	fluorine	hydrogen	methyl	methoxycarbonyl
40.)	fluorine	hydrogen	2-methoxycarbonylethyl	methoxycarbonyl
41.)	hydrogen	cyano	methyl	methoxycarbonyl
42.)	hydrogen	cyano	2-methoxycarbonylethyl	methoxycarbonyl
43.)	fluorine	cyano	methyl	methoxycarbonyl
44.)	fluorine	cyano	2-methoxycarbonylethyl	methoxycarbonyl
45.)	chlorine	methyl	methyl	methoxycarbonyl
46.)	chlorine	methyl	2-methoxycarbonylethyl	methoxycarbonyl
47.)	chlorine	hydrogen	methyl	methoxycarbonyl
48.)	chlorine	hydrogen	2-methoxycarbonylethyl	methoxycarbonyl
49.)	Chlorine	cyano	methyl	methoxycarbonyl
50.)	Chlorine	cyano	2-methoxycarbonylethyl	methoxycarbonyl

8. (Canceled)

9. (Withdrawn) A method of inhibiting PDE10 in a mammal, including a human, in the treatment of neurologic and psychiatric disorders, in the treatment of diabetes, or in the regulation of fertility of a masculine mammal, comprising administering to said mammal a compound containing - as an integral part of its overall structure - a structure-element as defined in claim 1.

10. (Withdrawn) A process to provide compounds, which inhibit PDE10, comprising the following steps:

- a.) designing intellectually a structure of a compound comprising - as part of its overall structure - a structure-element as defined in claim 1;
- b.) synthesizing materially a compound, which have the structure designed in step a.), in a manner known to the person skilled in the art, or as disclosed in the specification of the present invention, or analogously or similarly thereto.

11. (Withdrawn) A process for providing PDE10 inhibitors of the pyrrolodihydroisoquinoline class comprising the following steps:

- a.) selecting intellectually a structure of a compound of the pyrrolodihydroisoquinoline class;
- b.) modifying intellectually said selected structure in such a way that the modified structure comprises - as part of its overall structure - a structure-element as defined in claim 1;
- c.) synthesizing materially a compound having said modified structure in a manner known to the person skilled in the art, or as disclosed in the specification of the present invention, or analogously or similarly thereto.

12. (Canceled)

13. (Previously presented) A compound obtainable by the process according to claim 10.

14. (Withdrawn) A method for treating disorders of the central nervous system, movement disorders, obsessive/compulsive disorders, drug addictions, cognition deficiency disorders, mood disorders or mood episodes, or neurodegenerative disorders, by inhibiting of PDE10 comprising administering to a subject in need thereof a pharmaceutically effective and tolerable amount of a compound obtainable by a process according to claim 10.

15. (Canceled)

16. (Previously presented) A compound obtainable by the process according to claim 11.

17. (Withdrawn) A method for treating disorders of the central nervous system, movement disorders, obsessive/compulsive disorders, drug addictions, cognition deficiency disorders, mood disorders or mood episodes, or neurodegenerative disorders, by inhibiting of PDE10 comprising administering to a subject in need thereof a pharmaceutically effective and tolerable amount of a compound obtainable by a process according to claim 11.

18. (Withdrawn) A method for treating anxiety or psychotic disorders by inhibiting of PDE10 comprising administering to a subject in need thereof a pharmaceutically effective and tolerable amount of a compound obtainable by a process according to claim 10.

19. (Withdrawn) The method according to claim 18, wherein the anxiety or psychotic disorder is schizophrenia.

20. (Withdrawn) A method for treating anxiety or psychotic disorders by inhibiting of PDE10 comprising administering to a subject in need thereof a pharmaceutically effective and tolerable amount of a compound obtainable by a process according to claim 11.

21. (Withdrawn) The method according to claim 20, wherein the anxiety or psychotic disorder is schizophrenia.